



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/003,675

10/31/2001

Thomas D. Hanan

A1023

5322

35219

7590

03/05/2008

WESTERN DIGITAL TECHNOLOGIES, INC.

ATTN: RENEE M. QUICK

20511 LAKE FOREST DR.

E-118H

LAKE FOREST, CA 92630

EXAMINER

POPHAM, JEFFREY D

ART UNIT

PAPER NUMBER

2137

MAIL DATE

DELIVERY MODE

03/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/003,675	Applicant(s) HANAN, THOMAS D.	
	Examiner JEFFREY D. POPHAM	Art Unit 2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Remarks

Claims 1-8 are pending.

1. In view of the Appeal Brief filed on 12/4/2007, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Gilberto Barron Jr/
Supervisory Patent Examiner, Art Unit 2132

This re-opening is to make clear the grounds of rejection under which respective claims are addressed.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

2. Claims 4-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamlin (U.S. Patent 7,003,674).

Regarding Claim 4,

Hamlin discloses in a computer system including a host computer, a disk drive host interface, and a disk drive having a disk controller, a method for accessing a mailbox file associated with a first range of disk drive host interface addressable locations, the method comprising the steps of:

Recognizing a command from a host operating system in reference to the mailbox file associated with the first range of disk drive host interface addressable locations (Column 5, line 58 to Column 6, line 22; and Column 7, line 38 to Column 8, line 23); and

Responding to the command by performing within the disk controller an executable function characterized by the contents of the mailbox file (Column 5, line 58 to Column 6, line 22; and Column 7, line 38 to Column 8, line 23).

Regarding Claim 5,

Hamlin discloses that the first range of disk drive host interface addressable locations refers to a storage space allocated in at least one of a disk storage medium and a computer memory associated with the disk controller (Column 5, line 58 to Column 6, line 22; and Column 7, line 38 to Column 8, line 23).

Regarding Claim 6,

Hamlin discloses that the mailbox file contains encrypted information (Column 5, line 58 to Column 6, line 22; Column 7, line 38 to Column 8, line 23).

3. Claims 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nozawa (U.S. Patent 5,235,641).

Regarding Claim 4,

Nozawa discloses in a computer system including a host computer, a disk drive host interface, and a disk drive having a disk controller, a method for accessing a mailbox file associated with a first range of disk drive host interface addressable locations, the method comprising the steps of:

Recognizing a command from a host operating system in reference to the mailbox file associated with the first range of disk drive host interface addressable locations (Column 6, line 35 to Column 7, line 7; and Column 11, line 9 to Column 12, line 20); and

Responding to the command by performing within the disk controller an executable function characterized by the contents of the mailbox file (Column 7, lines 3-27).

Regarding Claim 5,

Nozawa discloses that the first range of disk drive host interface addressable locations refers to a storage space allocated in at least one of a disk storage medium and a computer memory associated with the disk controller (Column 6, line 35 to Column 7, line 27; and Column 11, line 9 to Column 12, line 20).

Regarding Claim 6,

Nozawa discloses that the mailbox file contains encrypted information (Column 6, line 35 to Column 7, line 27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Torrubia-Saez (U.S. Patent 6,966,002) in view of Nozawa.

Torrubia-Saez discloses in a computer system including a host computer, a disk drive host interface, and a disk drive having a disk storage medium with a

first range of disk drive host interface addressable locations, a method for installing a mailbox file associated with the disk storage medium, the installation method comprising the steps of:

Obtaining a disk drive access key from an access key server, the access key being generated by the access key server as a function of an identifying characteristic of the disk drive (Column 18, lines 22-57);

Creating a mailbox file in the first range of addressable locations using the access key obtained from the access key server (Column 7, lines 28-48; and Column 18, lines 40-57); and

Notifying the disk drive of a location of the mailbox file in the first range of addressable locations (Column 17, lines 25-63);

But does not disclose that the disk drive can perform an executable function characterized by contents of the mailbox file.

Nozawa, however, discloses obtaining a disk drive access key, creating a mailbox file in the first range of disk drive host interface addressable locations using the access key, and notifying the disk drive of a location of the mailbox file in the first range of addressable locations, wherein the disk drive can perform an executable function characterized by contents of the mailbox file (Column 5, line 21 to Column 7, line 27; and Column 11, line 9 to Column 12, line 20). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the file cryptographic system of Nozawa into the software distribution system of Torrubia-Saez in order to offload the troublesome

processing of ordinary data encryption/decryption from the host to the disk drive, so that an increase of the burden on the host in connection with data security can be greatly reduced and the secrecy of data to be stored in an external storage device can be secured without degrading the throughput of the system, and to improve security of the whole system (Column 8, line 44 to Column 9, line 45).

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torrubia-Saez in view of Nozawa, further in view of Vogt (U.S. Patent 6,681,304).

Regarding Claim 2,

Torrubia-Saez as modified by Nozawa does not disclose that the function is used to access a second range of addressable locations that are not disk drive host interface addressable and that are contained on the disk storage medium.

Vogt, however, discloses that the function is used to access a second range of addressable locations that are not disk drive host interface addressable and that are contained on the disk storage medium (Column 2, lines 20-31; and Column 3, lines 33-42). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the hidden storage system of Vogt into the software distribution system of Torrubia-Saez as modified by Nozawa in order to only allow access to private information when an appropriate password

(key) is entered, so as to hide this information from malicious users and programs.

Regarding Claim 3,

Torrubia-Saez as modified by Nozawa and Vogt discloses the method of claim 2, in addition, Vogt discloses that the access key is required for an application program to access the second range of addressable locations via the mailbox file (Column 2, lines 20-31; and Column 3, lines 33-42).

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa in view of Rao (U.S. Patent 5,812,883).

Nozawa does not explicitly disclose that the mailbox file includes at least one of a command that is to be executed by the disk controller, and an address of a command that is to be executed by the disk controller.

Rao, however, discloses that the mailbox file includes at least one of a command that is to be executed by the disk controller, and an address of a command that is to be executed by the disk controller (Column 2, line 13 to Column 3, line 20; Column 4, line 55 to Column 5, line 18; Column 6, line 46 to Column 7, line 48; and Column 8, lines 36-51). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the disk drive control system of Rao into the file cryptographic system of Nozawa in order to allow for ease in updating utility algorithms used within a storage drive

and parameters for such utility algorithms, thereby allowing explicit control of what is performed by the storage drive and how it is performed.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Torrubia-Saez in view of Nozawa, further in view of Rao.

Torrubia-Saez as modified by Nozawa does not explicitly disclose that the mailbox file includes at least one of a command that is to be executed by the disk controller, and an address of a command that is to be executed by the disk controller.

Rao, however, discloses that the mailbox file includes at least one of a command that is to be executed by the disk controller, and an address of a command that is to be executed by the disk controller (Column 2, line 13 to Column 3, line 20; Column 4, line 55 to Column 5, line 18; Column 6, line 46 to Column 7, line 48; and Column 8, lines 36-51). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the disk drive control system of Rao into the file cryptographic system of Nozawa in order to allow for ease in updating utility algorithms used within a storage drive and parameters for such utility algorithms, thereby allowing explicit control of what is performed by the storage drive and how it is performed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY D. POPHAM whose telephone number is (571)272-7215. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571)272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey D Popham
Examiner
Art Unit 2137

/Jeffrey D Popham/
Examiner, Art Unit 2137

/Gilberto Barron Jr/
Supervisory Patent Examiner, Art Unit 2132